

Spatial Display

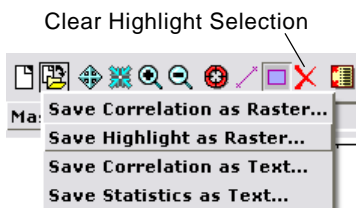
Highlight Image Cells from Correlation Plot

You can use salient spectral properties revealed in image band correlation plots to help identify surface materials shown in multispectral images. Using the Highlight within Range tool in the Image Band Correlation window in the Display process in TNTmips, you can draw a rectangle within the scatterplot to delineate a particular brightness range pair. A right mouse-click highlights the corresponding image cells in the View. You can also save the highlighted cells as a binary mask raster. An overview of the Image Band Correlation window is provided in the Technical Guide entitled *Spatial Display: Image Band Correlation*.

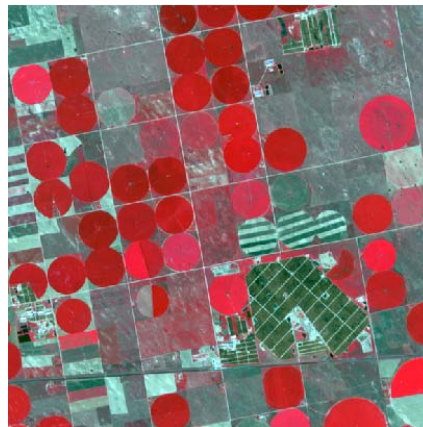
A correlation scatterplot of Red versus Near Infrared brightness values is particularly useful in analyzing images of cropland and natural vegetation. This scatterplot has a characteristic shape often referred to as a “tasseled cap” (see illustration above right). Image areas with full cover of healthy green vegetation are characterized by high near-infrared brightness coupled with low red brightness at the tip of the “cap”. This part of the plot is shown outlined by the Highlight within Range tool box in the illustration near right, and the corresponding image cells are highlighted in the image illustration on the far right.

Areas of bright bare soil have high red brightness and moderate near-infrared brightness. Part of this spectral area is delineated by the Highlight within Range tool in the spectral plot and image illustrations below right.

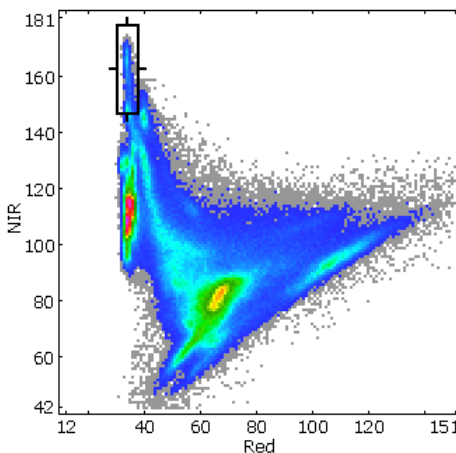
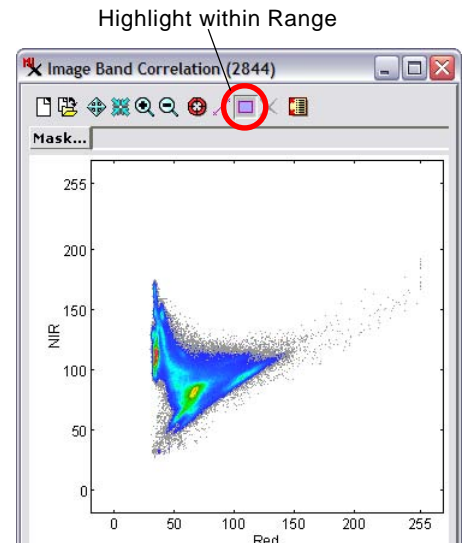
All cells in the source image within the ranges designated with the Highlight within Range tool can be saved as a binary raster using the Save icon button on the Image Band Correlation window (see the TechGuide entitled *Spatial Display: Create Masks from Image Correlation Plot*). The saved raster can then be used in further analyses requiring sample image areas of relatively pure spectral end-members.



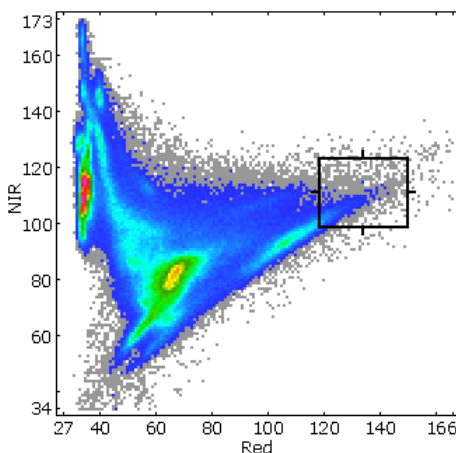
The Clear Highlight Selection button clears the Highlight within Range box in the Image Band Correlation window and the highlighted cells in the View.



Above, RGB display of Near Infrared, Red, and Green bands (in that order) of a QuickBird multispectral image of an agricultural area. The correlation plot to the right plots the Red band on the x-axis and the Near Infrared band on the y-axis, showing the classic “tasseled cap” shape of the scatterplot.



Area of high Near Infrared and low Red brightness, indicative of full green vegetation cover, demarcated in the zoomed scatterplot (left) using the Highlight within Range tool. A right mouse-click highlights these cells in the View (right, using yellow highlight color).



Area of high Red and moderately high Near Infrared brightness, indicative of bright bare soil (or bright man-made materials), outlined in the zoomed scatterplot using the Highlight within Range tool. The corresponding image cells are shown highlighted in yellow to the right.

